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ABSTRACT

A study examined the job stability of workers in the following flexible staffing arrangements: agency temporary, direct-hire temporary, on-call, contract company, independent contractor, and regular part-time work. Two data sources were used in the analysis. The first was a nationwide survey of employers on their use of flexible staffing arrangements. It provided evidence on why employers use various types of flexible staffing arrangements and the extent to which employers move workers in these positions into regular arrangements within their organization. The second data source was the Supplement to the February 1995 Current Population Survey (CPS) on Contingent and Alternative Work Arrangements. The longitudinal component was used to compare the subsequent labor market status of individuals in flexible work arrangements and those in regular full-time positions. Findings indicated that, except for independent contractors, workers in flexible staffing arrangements have less job stability than those in regular full-time arrangements because they are more likely to switch employers, become unemployed, or involuntarily drop out of the labor force within a year. The degree of job stability varied considerably across arrangements. Recent growth in certain types of flexible staffing arrangements could have translated into small declines in aggregate job stability and account for a substantial share of the modest increase in job switching observed over the last decade. (Seven tables are appended. Contains 24 references.) (YLB)

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W.E. UPJOHN INSTITUTE
FOR EMPLOYMENT RESEARCH

The Implications of Flexible Staffing Arrangements for Job Stability

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The Implications of Flexible Staffing Arrangements for Job Stability

Upjohn Institute Staff Working Paper No. 99-056

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Abstract

In this paper, we examine the job stability of workers in a wide range of flexible staffing arrangements: agency temporary, direct-hire temporary, on-call, contract company, independent contractor, and regular part-time work. We draw upon two data sources in our analysis. The first is a nationwide survey of employers on their use of flexible staffing arrangements conducted by the Upjohn Institute for Employment Research. This survey provides evidence on why employers use various types of flexible staffing arrangements and the extent to which employers move workers in these positions into regular arrangements within their organization. The second data source is the Supplement to the February 1995 Current Population Survey on Contingent and Alternative Work Arrangements. Exploiting the longitudinal component of the CPS, we compare the subsequent labor market status of individuals in flexible work arrangements and those in regular full-time positions in February 1995. We find that, except for independent contractors, workers in flexible staffing arrangements have less job stability than those in regular full-time arrangements in the sense that they are more likely to switch employers, become unemployed, or involuntarily drop out of the labor force within a year. However, the degree of job stability varies considerably across arrangements. We also show that the recent growth in certain types of flexible staffing arrangements could have translated into small declines in aggregate job stability and can account for a substantial share of the modest increase in job switching observed over the last decade.

There is a widespread perception that the nature of the employment relationship is fundamentally changing, resulting in less attachment between workers and firms and a decline in the stability of jobs (Schmidt and Thompson, this volume). For many, flexible staffing arrangements—including temporary, contract, and part-time work—epitomize unstable jobs, and recent growth in some of these arrangements is viewed as evidence of a broader decline in job stability (Belous 1989 and Castro 1993).

However, there is little evidence on whether, in fact, jobs in various flexible staffing arrangements are less stable. Although some studies have examined the labor market dynamics of female part-time workers (Blank 1994) and workers in the temporary help industry (Segal and Sullivan 1997a, 1997b), lack of data has hampered the examination of such issues in other, quantitatively important arrangements, such as on-call workers, temporary workers hired directly by the company, contract company workers, and independent contractors.

The primary purpose of this chapter is to shed light on the job stability of workers in a wide range of flexible staffing arrangements using two new sources of data: a nationwide employer survey on flexible staffing arrangements conducted by the Upjohn Institute for Employment Research and the February 1995 Supplement to the Current Population Survey (CPS) on Contingent and Alternative Work Arrangements. The Upjohn Institute employer survey provides evidence on why employers use various flexible staffing arrangements and the extent to which employers move workers in these positions into regular jobs within their organization. The survey results reveal that employers' reasons for using flexible staffing arrangements vary considerably by type of arrangement, which, in turn,

suggests that the consequences for job stability will differ across arrangements.

The February 1995 Supplement to the CPS represented the first attempt in government statistics to provide a comprehensive count of workers in a wide variety of employment arrangements. Exploiting the longitudinal component of the CPS, we compare the subsequent labor market status of individuals holding flexible work arrangements and those holding regular full-time positions in February 1995. We find that workers in most flexible staffing arrangements have less job stability than workers in regular full-time arrangements in the sense that they are more likely to switch employers, become unemployed, or drop out of the labor force within a year. However, consistent with the Upjohn Institute survey results, we find that the degree of job stability varies considerably across arrangements.

Finally, we extend our analysis of the CPS data to examine the effects of the growth in flexible staffing arrangements on aggregate job stability, as measured by one-year transition rates to a different employer, to unemployment, and out of the labor force. We conclude that growth in certain types of flexible staffing arrangements could have translated into small declines in job stability and can account for a substantial share of the modest increase in job switching observed over the last decade.

Flexible Work Arrangements: Definitions and Prevalence

Using the February 1995 CPS data, we classified workers into eight mutually exclusive categories: agency temporaries, on-call workers, contract company workers, direct-hire temporary workers, independent

contractors, regular self-employed (who are not independent contractors), regular part-time workers, and regular full-time workers. We do not distinguish between those who work part-time and full-time hours in the first six categories of employment. Regular part-time and regular full-time workers comprise those who are not classified in one of the other arrangements; regular part-time workers are regular employees who usually work less than 35 hours per week. Our temporary help agency category includes all of those who state they are paid by a temporary help agency. Thus, it includes the permanent staff of these agencies, though they represent a relatively small percentage of those employed in this industry.[1] On-call workers are hired directly by the organization but work only when needed. Examples of on-call workers include substitute teachers and many types of hospital employees. We classified individuals as contract company workers if they work for a company that contracts out their services, they generally work at the customer's worksite, and they are usually assigned to just one customer. In the February 1995 CPS, a small number of individuals was classified as both on-call and contract company workers. We classified these individuals as on-call workers.

The category direct-hire temporaries comprises temporaries hired directly by the company, rather than through a staffing agency. The CPS does not include a specific question classifying individuals as direct-hire temporaries. We constructed this category based on a series of questions in the February Supplement. Specifically, we classified individuals as direct-hire temporaries if they indicated that their job is temporary or that

[1]A 1989 Industry Wage Survey indicated that permanent full-time staff constituted 3.2 percent of employment in Help Supply Services.

they can not stay in their job as long as they wish for any of the following reasons: they are working only until a specific project is completed, they are temporarily replacing another worker, they were hired for a fixed period of time, their job is seasonal, or they expect to work for less than a year because their job is temporary.

The category independent contractor includes those stating that they work as an independent contractor, an independent consultant, or a free-lance worker. Thus, the category independent contractor comprises a large and, no doubt, diverse group of workers. The vast majority of independent contractors (85 percent) report being self-employed.[2]

Table 1 reports the distribution of employment by arrangement according to data from the February 1995 CPS. Together, agency temporary, on-call, direct-hire temporary, contract company, independent contract, and regular part-time workers account for 26.3 percent of total employment. Despite media attention surrounding agency temporaries, it is interesting to note that on-call, direct-hire temporary, contract company, and independent contractor employment are all quantitatively as important or more important than temporary help agency employment.[3]

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[2]A further explanation of the variables in the Contingent and Alternative Work Arrangement Supplement is contained in the appendix to this chapter and in Polivka (1996).

[3]Agency temporaries, as measured in the February CPS Supplement, account for only about one percent of total employment. They account for over 2 percent of employment in the Current Employment Statistics (CES), the Bureau of Labor Statistics' establishment survey. Although the CES somewhat overstates the number of employees of temporary help agencies, it is generally presumed that the CPS somewhat understates the number of agency temporaries. For a discussion of the differences between CPS and CES statistics on temporary help agency workers, see Polivka (1996).

Workers in flexible arrangements generally have much shorter job tenure than regular full-time workers. As shown in Table 1, the share of workers with job tenure of one year or less is much higher for most flexible arrangements than it is for regular full-time arrangements. The exception is independent contracting, which like regular self-employment has a smaller proportion of workers with one year of tenure or less. Although workers in flexible arrangements comprise 26.3 percent of the workforce, they account for 40.9 percent of those with job tenures of a year or less. Lower job tenure in flexible staffing arrangements could partly reflect greater growth of new jobs in these arrangements or a tendency of new entrants to hold these jobs. Even so, lower tenure is consistent with the hypothesis that any shift in employment toward flexible staffing arrangements will result in less stability.

Why Employers Use Flexible Staffing Arrangements

Understanding why employers use flexible staffing arrangements can provide useful insights into whether these jobs are less stable. If employers are using these arrangements primarily in response to a temporary need for additional workers, then the jobs are intrinsically less stable than regular positions. If, however, employers are using workers in flexible staffing arrangements to accommodate predictable and stable fluctuations in their workload over the day and week or to accommodate employee desires for more flexible schedules or shorter hours, there is little reason to believe these arrangements would result in less job stability.

The implications for job stability are ambiguous if firms are using these arrangements as a way to screen workers for regular jobs. On the one

hand, using flexible arrangements to screen workers for permanent jobs should facilitate better job matches and may even increase job stability. This outcome is particularly likely if flexible workers are hired through third parties, like temporary help agencies, and if these organizations have a comparative advantage in screening workers and can make better initial matches than firms would make hiring on their own. On the other hand, screening workers for permanent positions by trying them out in flexible arrangements arguably lowers the costs of dismissing workers who demonstrate low productivity and may result in lower job stability. For instance, if the workers are hired through a third party, employers need not maintain records on workers they decide not to hire and the chance that workers will take legal action in the event of dismissal is probably less. The dismissal of low productivity workers also would not increase a firm's unemployment insurance rating, if they were hired through a third party intermediary. Given these potential cost savings, employers may try out more workers for any given position than they would if hiring on their own, resulting in a decline in job stability. Still, the consequences for job stability are likely to be less adverse if employers are using flexible staffing arrangements to screen workers for permanent positions than if they are using them to fill temporary slots.

Evidence from the Upjohn Institute Employer Survey

The Upjohn Institute employer survey on flexible staffing arrangements, conducted in 1996, provides evidence on why employers use flexible staffing arrangements. In that survey, employers from a stratified random sample of 550 private sector establishments with five or more

employees were interviewed on their use of five types of flexible work arrangements: temporary help agency, direct-hire temporary, regular part-time, on-call, and contract workers. If a company used agency temporaries, direct-hire temporaries, on-call workers, or regular part-time workers, they were asked a detailed set of questions on why they used the particular arrangement. In addition, employers who stated that since 1990 they had increased employment in a particular flexible staffing arrangement relative to regular employment were asked why they had increased their use.[4] The latter question reveals why, on the margin, employers may be increasing their use of flexible arrangements, which is particularly relevant for assessing the likely effects of any increase in the use of flexible staffing arrangements on job security.

The reasons most commonly cited by employers for using agency temporaries, direct-hire temporaries, and on-call workers concern the need to accommodate fluctuations in their workload or in their regular staff. For example, 47 percent of employers using agency temporaries cited filling a vacancy until a regular employee is hired; 47 percent using agency temporaries and 69 percent using on-call workers cited filling in for an absent regular employee; 55 percent using direct-hire temporaries cited seasonal needs; and 52 percent using agency temporaries and 51 percent using on-call workers cited providing assistance at times of unexpected

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[4]Employers were not asked why they contracted out work, but only why, if pertinent, they changed their use of contract workers since 1990. The concept of contract workers in the Upjohn survey differs from the concept of contract company workers and independent contractors in the 1995 CPS Supplement, and results on contract workers from the Upjohn survey will not be discussed in this chapter. Houseman (1997) provides a detailed discussion of the Upjohn survey.

increases in business as important. These reasons indicate that these jobs are often temporary and thus are likely to be less stable than regular jobs.

Employers primarily say they use part-time workers to 1) provide needed assistance during peak-time hours of the day or week (cited by 62 percent); 2) cover for hours not covered by full-time shifts (cited by 49 percent); and 3) accommodate employees' wishes for part-time hours (cited by 54 percent). These responses have no obvious implications for the stability of part-time jobs.

As noted above, flexible staffing arrangements could be associated with greater job stability if employers are using them to screen workers for permanent positions. However, screening workers for permanent jobs appears to be an important factor only in employers' use of agency temporaries and, to a lesser extent, regular part-time workers. Twenty-one percent of employers using agency temporaries and 15 percent using regular part-time workers cited screening for permanent jobs as an important reason for using these arrangements. Among employers increasing their relative use of agency temporaries since 1990, about half cited greater use of agency temporaries to screen workers for regular positions or difficulty finding qualified workers on their own as reasons for the increase.

Besides asking employers whether they used flexible staffing arrangements to screen workers for regular positions, employers were asked to evaluate the extent to which they actually move workers in flexible arrangements into regular positions. Specifically, employers using agency temporaries, direct-hire temporaries, regular part-time workers, or on-call workers were asked if their organization moved each type of worker

into regular positions often, occasionally or sometimes, seldom, or never. Responses to these questions are reported in Table 2. Only a small minority of employers stated that they often move workers in flexible arrangements into regular positions, although a substantially greater percentage report occasionally or sometimes moving them. Along with the reasons employers give for using flexible staffing arrangements, these responses suggest that although many employers use flexible arrangements—particularly agency temporaries—to screen workers for permanent positions, other factors are generally more important in determining employer use.

Moreover, while certainly some employers do move workers in flexible arrangements into regular positions, there also is concern that companies do just the opposite: move workers from regular positions into flexible arrangements. Questions in the February 1997 Supplement to the CPS shed some light on the prevalence of this phenomenon.[5] Specifically, individuals who were identified in the February 1997 CPS as agency temporaries, on-call workers, contract company workers, and independent contractors were asked whether they had always been in their present arrangement at the place they were currently working. Nine percent of all agency temporaries, 11.5 percent of contract company workers, 15.9 percent of on-call workers, and 8.5 percent of independent contractors reported working at the same place in another type of work arrangement.

[5]The CPS Supplement on Contingent and Alternative Work Arrangements was repeated in February 1997. We report the 1997 figures here because, as a result of a questionnaire error in 1995, very few independent contractors were asked if they had previously worked for their employer or client in another arrangement. This problem was corrected in the 1997 survey.

These workers were not directly asked the type of arrangement in which they were previously working, but they were asked how long they had worked there prior to being switched. Among agency temporaries, 39.5 percent had worked a year or more and 22.5 percent had worked three or more years prior to being switched; among on-call workers, 76.8 percent had worked a year or more prior to being switched and 51.2 percent had worked three or more years prior to being switched; and among independent contractors 84.2 percent had worked three or more years prior to switching arrangements. These tenure distributions imply that, with the possible exception of agency temporaries, the majority of workers who were switched were not in a short-term arrangement. This fact, coupled with evidence presented below that most flexible arrangements are associated with less job stability, suggests that most of those who were switched probably were initially in "regular permanent" positions.

In sum, the evidence collected in the Upjohn Institute survey on why employers use flexible staffing arrangements indicates that the effect on job stability of these arrangements varies with the type of arrangement. Employers report primarily using agency temporaries, on-call workers, and direct-hire temporaries to fill temporary positions, which suggests that, on average, these positions would be associated with less job stability than regular full-time positions. This adverse effect on job stability may be mitigated by some employers' use of these arrangements to screen workers for permanent positions. However, only for agency temporaries do we find substantial numbers reporting that they use or are increasing their use of these workers to screen for permanent positions. Moreover, data from the February 1997 CPS Supplement indicate some employers are switching

workers from regular positions into flexible arrangements. The reasons employers give for hiring regular part-time workers do not suggest any strong relationship between part-time employment and job stability.[6]

Job Stability: Evidence from the CPS

In this section we exploit the longitudinal component of the CPS to more directly examine the implications of flexible staffing arrangements on job stability. Specifically, we track workers who were in flexible arrangements in February 1995 and compare their labor market status over time with those who were in regular full-time jobs in February 1995.

Data

Households in the CPS are in the sample for four months, out of the sample for eight months, and back in the sample for four months. From one month to the next, a maximum of three-fourths of the sample can be matched; in months exactly a year apart, a maximum of one-half of the sample can be matched. In practice, given that the CPS sample is based on addresses, the proportion of individuals who are the same across months is lower because some individuals move each month and some refuse to continue cooperating. We matched individuals from the February 1995 CPS with those from the March 1995 CPS and February 1996 CPS.

The proportion of workers we were able to match was slightly lower for those in flexible arrangements in February 1995 than for those in regular full-time positions, suggesting that workers in flexible

[6]The Upjohn Institute employer survey does not provide evidence on job stability for contract company workers and independent contractors.

arrangements are somewhat more inclined to move. Assuming that changing jobs or becoming unemployed is an important reason why individuals move, our analysis may understate the extent to which workers in flexible arrangements change jobs and become unemployed relative to regular full-time workers. Although we believe any bias in the data is minimal, we weighted the tabulations of the raw data to help account for differences in attrition from our sample. Specifically, our weights maintain the same distribution across eight gender-age-race groups in March 1995 and February 1996 as in February 1995.[7]

Our matched data allow us to follow the labor market status of workers in flexible arrangements one month and one year later and compare their outcomes with those who began in regular full-time jobs. Specifically, from the March 1995 and February 1996 data, we can determine whether an individual is employed with the same employer, employed with a different employer, unemployed, or not in the labor force.[8] A drawback of the CPS data is that we only know the individual's type of work arrangement in February 1995. Thus, for example, we do not know if a direct-hire temporary worker who changed employers between February 1995 and March 1995 holds another temporary position or is in a regular permanent job.

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[7]Details on the construction of these weights along with other variables are provided in the appendix.

[8]A question on the basic March 1995 survey explicitly asks individuals who are employed if their employer is the same as in the previous month. We determined if individuals held the same job in February 1996 as they did one year earlier using data on job tenure from the February 1996 Supplement to the CPS.

Determining whether agency temporary and contract company workers have changed employers between periods is complicated by the fact that many misreport their employer as the client firm. In the basic CPS each month, the respondents are asked to give or verify the name of their employers. In the February 1995 Supplement, individuals identified as working for a temporary help agency or for a company that contracts out their services were then asked if the employer listed for them in the basic CPS was the temporary help agency/contract company or the business for whom they were doing the work. In February 1995, 57 percent of agency temporaries and 17 percent of contract company workers had incorrectly given the client firm as their employer. In the analysis below, we exclude individuals misreporting their employer as the client firm in the February 1995 data. Although these exclusions increase the accuracy of our classification as to whether the individual has the same or different employer, they substantially reduce the sample sizes, particularly for agency temporaries.

Descriptive statistics

Tables 3 and 4 show the labor force status in March 1995 and February 1996 of workers by their employment arrangement in February 1995. Below, we present results of multivariate analyses which test for differences in labor force transitions by initial employment arrangement, controlling for individual and job characteristics.

According to the figures in Tables 3 and 4, the subsequent labor force outcomes of workers who were in flexible arrangements in February 1995 are markedly different from those who were in regular full-time

positions. Agency temporaries, on-call workers, direct-hire temporaries, and contract company workers are much more likely to switch employers within a month and a year and regular part-time workers are much more likely to change employers within a year compared to regular full-time workers. In addition, workers in all flexible arrangements are less likely to be employed one month and one year later compared to regular full-time workers. The differences in employment rates are particularly dramatic for agency temporaries, on-call workers, and direct-hire temporaries after both one month and one year and for contract company workers and regular part-time workers after one year. Their lower employment rates may be ascribed to both higher unemployment rates and lower labor force participation rates. Agency temporary, on-call, direct-hire temporary, contract company, and part-time workers are also more likely to drop out of the labor force but express a desire to still work.[9] Below, we use the phrase "involuntarily out of the labor force" to denote this status. The pattern for independent contractors and regular self-employed is quite different. Their lower employment rates after one month and one year may be attributed, for the most part, to a greater propensity to voluntarily drop out of the labor force.

One might suspect that workers in flexible arrangements are more likely to become unemployed because they are more inclined to quit their jobs voluntarily. Questions on the March 1995 CPS specifically asked the

[9]As noted above, the results for agency temporaries exclude those who misreported their client as their employer in the February 1995 basic CPS. These agency temporaries displayed a pattern of labor market transition rates similar to that of agency temporaries who correctly reported the agency as their employer. Their exclusion from the tabulations and the multivariate analysis reported below does not affect the qualitative nature of our findings.

unemployed whether they held a job prior to becoming unemployed and, if so, whether they lost or left that job. About 80 percent of those who were regular full-time workers in February 1995 and who were unemployed the following month reported losing their job. This figure is the same or higher for all categories of flexible arrangements, although the sample sizes are small in some cases. Thus, it appears that the higher incidence of unemployment among workers in flexible arrangements cannot simply be ascribed to a higher propensity on the part of those workers to quit their jobs.

Results from Multinomial Logit Models

The different labor market outcomes experienced by workers in flexible arrangements relative to those in regular full-time jobs may result from the nature of the arrangements themselves. Alternatively, they may stem from differences in the average personal and job characteristics of individuals in those arrangements. To control for personal and job characteristics, we estimated multinomial logit models using the February 1995 to March 1995 matched data and the February 1995 to February 1996 matched data. In the models estimated, there are four possible labor market outcomes: employed, same employer (E_s); employed, different employer (E_d); unemployed (U); and not in the labor force (N). To identify the model, the coefficients for one outcome must be set equal to zero. We used employed, same employer as the base group in our models. The probability of each outcome is as follows:

$$Pr(E_s=1) = \frac{1}{1 + e^{X\beta(E_d)} + e^{X\beta(U)} + e^{X\beta(N)}}$$

$$Pr(I=1) = \frac{e^{X\beta(I)}}{1 + e^{X\beta(E_d)} + e^{X\beta(U)} + e^{X\beta(N)}}$$

$$I = E_d, U, \text{ or } N,$$

where X is a vector of control variables measuring personal and job characteristics, and ß is a vector of coefficient estimates.[10]

In each set of specifications we controlled for age, age-squared, gender, race, level of education, industry (19 categories), occupation (12 categories), region of the country, whether the individual is from a central city or a rural area, whether the individual lived in a poverty area, marital status, marital status interacted with gender, tenure on the job, and tenure-squared. All of these variables were taken from the February 1995 CPS. We included dummy variables for each flexible work arrangement; the excluded category is regular full-time workers.

One might argue that unmeasured personal characteristics are important in explaining any lower job stability among those in flexible arrangements. Our data set contains many measures of job history that arguably control for such unobserved characteristics by capturing an individual's predisposition to change employers, experience spells of unemployment, or drop out of the labor force. In the February 1995 Supplement, those who had three or less years of tenure in their current

[10]The multinomial logit model assumes that the ratio of the probability of one state to the probability of another state, or the odds ratio, is independent of the other alternatives. We performed a Hausman specification test on this independence of irrelevant alternatives assumption and it was accepted. (See Greene, 1997, pp. 920-1 for a discussion of this test.)

arrangement were asked a series of questions about what they were doing prior to their current arrangement. We included controls for whether, just prior to their current job, these individuals held another job, lost a job, and were unemployed.[11] We also included controls for the number of employers individuals had in 1994, the number of weeks they were unemployed in 1994, and the number of weeks they were out of the labor force in 1994. These variables come from the March 1995 CPS Income Supplement.

Finally, we included the logarithm of the hourly wage. The wage variable may be correlated with unmeasured characteristics affecting worker quality and stability in the work force. Alternatively, workers earning low wages relative to their education, tenure, and job characteristics may be more inclined to quit and find a new job, quit and become unemployed, or drop out of the labor force. The hourly wage measure was constructed from the earnings data for 1994, which was collected in the March 1995 CPS Income Supplement.[12]

Selected coefficient estimates for the multinomial logit models predicting labor force status in March 1995 and February 1996 are reported

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[11]Because these three variables only are defined for individuals with three or fewer years of tenure, we also included a dummy variable set equal to one if the individual had three or fewer years of tenure on the job.

[12]We also have run models using a wage measure based on reported hourly earnings from the February 1995 CPS. The results from these models are almost identical to the results of those reported here, in which wages are calculated from annual earnings. Although reported hourly earnings from the February 1995 survey are likely to be more accurate, we cannot include any of the variables from the March 1995 CPS in regressions with the February 1995 wage measure because February 1995 wage data for regular part-time and regular full-time workers were only collected for the out-going rotations. For this reason, we report regression models with the hourly wage calculated from annual 1994 earnings.

in Tables 5 and 6, respectively. The marginal effects on the probability of switching employers, being unemployed, or dropping out of the labor force are reported in brackets below the coefficient estimates.[13] For instance, in Table 5, column 1, being an agency temporary versus a full-time regular worker increases the probability of switching employers by 4.4 percentage points.

The coefficient estimates for the control variables in the multinomial logit models have the expected signs and many are statistically significant. For example, workers who had another job immediately prior to their current one are more likely to change employers within a month or a year. Those who lost a job immediately prior to their current one are also more likely to be unemployed one month and one year later. The number of employers an individual had in 1994 is positively associated with switching employers and becoming unemployed. The number of weeks a worker was unemployed in 1994 and the number of weeks the worker was out of the labor force in 1994 are positively related to the probability that a worker will switch employers, be unemployed, or drop out of the labor force both in one month and in one year. The logarithm of a worker's

[13]The reported marginal effects were calculated as the average of the marginal effects for each individual in the sample. For continuous variables, the marginal effect of variable x_i on the probability of being in state j, P_j, is $P_j(B_{ij} - \bar{B}_i)$. For binary variables, the individual marginal effects were calculated as the difference in the predicted probability first assuming a value of 0 and then a value of 1. For the flexible staffing dummy variables, the individual marginal effects were calculated as the difference between the predicted probability assuming the individual was a regular full-time worker and the predicted probability assuming the individual was in the particular flexible arrangement (agency temporary, on-call worker, etc.). See Greene (1997, pp. 876-8, 916).

hourly wage is inversely related to the probability that a worker will be unemployed after one month and drop out of the labor force after one year.

Although the inclusion of controls for individual and job characteristics, employment history, and wage levels reduces the magnitude of some coefficients on the flexible arrangement dummy variables, most of these coefficients remain statistically significant with large implied effects on the probability of switching employers, becoming unemployed, or dropping out of the labor force. In our models, being an agency temporary, an on-call worker, a direct-hire temporary, or a contract company worker increases the probability that a worker will switch employers within a month and within a year; being an independent contractor increases the probability that a worker will change employers within a month; and being a regular part-time worker increases the probability that the worker will change employers within a year. The implied effects of being in a flexible staffing arrangement on the probability of switching employers is often quite large. For example, estimates from Table 6, model 4, indicate that being an agency temporary increases the probability of switching employers within a year by 21.3 percentage points relative to regular full-time workers; being an on-call worker, a direct-hire temporary, or a contract company worker increases the probability of switching employers by 8.7, 7.5, and 7.9 percentage points, respectively.

One caveat to these findings is that employers may be using flexible staffing arrangements to screen workers for regular positions. Agency temporaries, contract company workers, and independent contractors—who are not employees of the client firm—in theory will be

classified as switching employers in the data when they are being hired into a regular position by the client company. This possibility complicates the interpretation of the estimates on the probability of switching employers. However, data from the Upjohn Institute employer survey, cited above, suggest that this is unlikely to be a significant problem for any flexible staffing arrangement, save, perhaps, agency temporaries.

It is also interesting to compare differences between the proportions of workers in flexible arrangements and of regular full-time workers who switch employers in the raw data (reported in Tables 3 and 4) with the estimated marginal effects of being in flexible staffing arrangements after controlling for individual and job characteristics (reported in Tables 5 and 6). For instance, as shown in Table 4, the percent of on-call workers who switch employers in a year is 11.2 percentage points higher than the percent of regular full-time workers who switch. Estimates from Table 6, model 4 (which includes the most control variables) indicate that the effect of being an on-call worker increases the probability of switching employers in a year by 8.7 percentage points compared to a regular full-time worker. Therefore, in this as in other cases, differences in individual and job characteristics account for some, but by no means all, of the differences in labor market outcomes of workers in flexible staffing arrangements, according to our models.

In general, workers who were agency temporaries, on-call workers, direct-hire temporaries, or regular part-time workers in February 1995 also were significantly more likely to be unemployed in March 1995 and February 1996 compared to regular full-time workers. For example, estimates from model 4 in Table 6 indicate that being in one of these four

flexible staffing arrangements increases the probability of entering unemployment from 1.0 percentage point (for part-time workers) to 4.5 percentage points (for on-call workers).

In addition, those in most flexible staffing arrangements in February 1995 were more likely than regular full-time workers to be out of the labor force in March 1995 and/or February 1996. These results are difficult to interpret by themselves. On the one hand, certain flexible arrangements may be amenable to balancing family and work responsibilities or may make good bridge jobs to retirement, and therefore a larger proportion of workers in these arrangements may voluntarily drop out of the labor force over the course of the year. On the other hand, workers in flexible arrangements may be more likely to lose their job and drop out of the labor force even though they would prefer to work. To address this issue we estimated multinomial logit models with four possible labor status outcomes—employed; unemployed; not in the labor force, don't want to be; and not in the labor force, want to be—on the February 1995 to February 1996 matched data. Selected results from these models, reported in Table 7, show that on-call workers, direct-hire temporaries, regular part-time workers, and, in most specifications, contract company workers are significantly more likely to involuntarily drop out of the labor force than are regular full-time workers.[14]

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[14]These results included the same set of control variables as the equations reported in Table 6. Agency temporaries were excluded from the models because none were in the category "not in the labor force, want to be." Similarly, because there were no individuals in the category "not in the labor force, want to be" for certain work arrangements in March 1995, these models could not be run on the February 1995 to March 1995 matched data. We also estimated a specification with the interaction of the work arrangement dummy variables with gender. These

We believe one of the most interesting findings from our analysis is that independent contractors do not appear to experience less job stability over the course of a year than regular full-time employees. Once controls for individual characteristics are included, independent contractors are not more likely to switch employers and generally are significantly less likely to become unemployed than are regular full-time workers. In addition, although independent contractors are more likely to drop out of the labor force, this action appears largely voluntary. These findings are subject to the caveat that in the BLS data independent contractors comprise a large and diverse group who label themselves independent contractors, independent consultants, or freelancers and who may or may not work at the client's worksite. It is possible that certain types of independent contractors experience less job stability than regular full-time workers.

Our conclusion that most flexible staffing arrangements are associated with less job stability is subject to the qualification that unobserved personal characteristics may still account for remaining differences. However, earlier we argued that we included many controls for past work history and for wages, which should be correlated with unobserved characteristics that result in less job stability. Moreover, work by Segal and Sullivan (1997b) suggests that controlling for individual fixed

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interactions were almost always insignificantly different from zero. In addition, the estimates from a model in which the sample was restricted to those between the ages of 20 and 64 were qualitatively similar to those reported here. We do find, however, that among workers 45 and older the proportion who report being in retirement in February 1996 is much higher among those in most flexible staffing arrangements than among those in regular full-time arrangements in February 1995. Thus, there is some evidence to suggest that flexible staffing arrangements are often bridges to retirement for older workers.

effects has almost no impact on estimates of job stability of workers in the temporary help industry. Using longitudinal data from administrative records, they find workers in the temporary help industry are much more likely than other workers to experience short employment spells.[15]

Finally, the pattern of coefficient estimates in the models reported in Tables 5, 6, and 7 is consistent with evidence from the Upjohn Institute employer survey presented above and accords well with our intuition. Workers in arrangements that are explicitly temporary (agency temporaries, direct-hire temporaries) or quite likely to be temporary in nature (on-call, contract company[16]) are the most likely to change employers and become unemployed. Tests show that regular part-time workers, while significantly more likely to change employers and become unemployed than regular full-time workers, are significantly less likely to switch employers and become unemployed than are workers in these four arrangements.

Trends in Flexible Staffing Arrangements and the Implications for Job Stability in the Aggregate

The question of whether aggregate job stability has declined in the United States in recent years is a subject of much debate. Some studies have found a significant decline in job stability among men. Although

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[15]Because individuals' work arrangements are recorded only at one point in time in our data, we cannot adopt an empirical strategy similar to that used in Segal and Sullivan.

[16]Recall that, following the BLS definition of contract company workers, we restrict the category to those who work primarily for one client at the client's worksite.

other studies have found little or no decline in overall job stability, they have generally found significant declines in the job stability of certain subgroups (e.g. blacks, youth, men with long tenure, and less educated workers).[17] In addition, several studies which found negligible declines in job stability in the 1980s uncovered larger declines in the 1990s (Jaeger and Stevens (1999), Neumark, Polsky and Hansen (1998), and U.S. Bureau of Labor Statistics (1997) and (1998)). There also is evidence that the rate of involuntary job loss increased, particularly in the 1990s (Boisjoly, Ducan, and Smeeding (1998), Farber (1997) and (1998), Polsky (1997), Valletta (1999)).

To conclude the chapter, we examine what effect changes in the share of workers in various flexible staffing arrangements have had on job stability in the aggregate. Using our multinomial logit estimates from the previous section, we simulate the effects of changes in the composition of employment across work arrangements on one-year labor market transition rates. We then compare the magnitude and pattern of our predicted effects to actual changes in the one-year labor market transition rates.

To develop a trend measure of aggregate job stability comparable to the measure of job stability used in the analysis in this chapter, we matched individuals in the January 1986 CPS and the January 1987 CPS. The availability of tenure data in the January 1987 CPS Supplement allowed us to construct one-year labor market transitions, as was done for the 1995-1996 data reported above. We then compared one-year labor market transitions for 1986-87 to labor market transitions for 1995-1996.

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[17]For reviews of this literature see Schmidt and Svorny (1998), Gottschalk and Moffitt (1998) or Bansak and Raphael (1998).

The results of this comparison are shown in Table 8 and are consistent with other findings of a modest decline in job stability in recent years. According to these tabulations, the number of workers remaining with the same employer one year later was 0.6 percentage points lower in the 1995-96 period compared to the 1986-87 period.

Interestingly, all of the decline in one-year job retention rates may be attributed to an increase in the proportion changing employers. The proportion entering unemployment actually declined between the two time periods (which is consistent with the fact that aggregate unemployment also declined), the proportion dropping out of the labor force remained the same, while the proportion switching employers rose by 1.0 percentage point.

How much of the decline in job stability may be attributed to a growth in flexible staffing arrangements? Examination of this issue is hampered by the paucity of time series data on employment by flexible staffing arrangement. Statistics for on-call, direct-hire temporary, contract company, and independent contract workers were first collected in the February 1995 Supplement to the CPS.[18] Although times series data for part-time employment are available from the CPS, the measurement of part-time work was changed with the redesign of the CPS in 1994, resulting in a break in the series. Self-employment data for both incorporated and unincorporated individuals are available only beginning in 1989 and the measurement of self-employment was also affected by the redesign of the

[18]The survey on Contingent and Alternative Work Arrangements was repeated as a supplement to the February 1997 CPS and between 1995 and 1997 the percent of workers in these arrangements remained roughly constant.

CPS in 1994. Adjusting for the breaks in the series, Polivka and Miller (1998) argue that both part-time and self-employment declined in the 1990s.[19] However, even use of adjusted figures is problematic because the categories part-time and self-employment in the CPS differ from the categories "regular" part-time and "regular" self-employment used in this chapter. In particular, time series data on part-time employment include agency temporaries, on-call workers, direct-hire temporaries, contract company workers, and independent contractors classified as employees who work fewer than 35 hours per week. Self-employment figures include both regular self-employed and self-employed independent contractors.

Agency temporaries is the only flexible staffing category for which a relatively clean time series is available. The Current Employment Statistics (CES) provide information on employment in the help supply services industry, SIC 7363, which is comprised primarily of temporary help agencies. According to these figures, employment in temporary help agencies grew dramatically in the 1980s and 1990s. From 1982 (the first year for which data are available) to 1997, the share of total employment in help supply services rose sharply from 0.4 percent to 2.0 percent. For the subperiod 1986-87 to 1995-96, the share of total employment in help supply services increased from 0.8 to 1.7 percent.[20]

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[19]Adjusting for the redesign, the percentage of workers in part-time employment declined from 19.1 percent in 1986 to 18.3 percent in 1996. Self-employment (both incorporated and unincorporated) declined from 12.5 percent in 1989 to 11.5 percent in 1996.

[20]The CES only includes data for paid employees in non-farm industries. We calculated agency temporaries as a share of total employment by adding figures on self-employment and farm employment from the CPS to total paid employment figures from the CES. We averaged the share of temporary employment in the

Table 8 reports a simulation of the effects of the increase in agency temporaries over the 1986-87 to 1995-96 period on the one-year labor market transition rates. We used the estimates in model 4, Table 6, which contains the greatest number of control variables, as the basis for our simulations. We assumed that the characteristics of individuals joining temporary help agencies during the period was the same as the distribution of characteristics among those who currently are agency temporaries, in calculating the marginal effects of the growth in temporary help employment.[21] We also assumed that, in the absence of growth in temporary employment, workers would be employed in regular part-time and regular full-time jobs in proportion to the number of agency temporaries actually working part-time and full-time hours.

Our estimates suggest that the growth in agency temporaries over the 1986-87 to 1995-96 period would have increased the number of workers switching employers (where the employer is defined as the agency) within a year by 0.30 percentage points. With a labor force of over 129 million in 1997, this would translate into an increase of about 387,000 workers changing employers in a year. The effects on unemployment are more modest: the growth in agency temporaries would be expected to increase the number who are unemployed only by 0.03 percentage points or about 39,000.

Most interesting is the fact that the predicted effect from the growth in agency temporaries on labor market transitions mirror the pattern

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years 1986 and 1987 and in the years 1995 and 1996.

[21]Our results were not particularly sensitive to this assumption. See the appendix for a further explanation of the simulations.

observed between 1986-87 and 1995-96. In particular, according to our simulations, the principal effect of the growth in agency temporaries was to increase the proportion of workers switching employers, which accords with the fact that the decline in aggregate job stability resulted entirely from an increase in employer switching. The estimates presented in Table 8 suggest that about 30 percent of the growth in employer switching may be attributed to the increase in agency temporary employment.[22]

These simulations only reflect the effects of the growth of agency temporary employment over the 1986-96 period. The share of employment accounted for by agency temporaries grew rapidly prior to 1986 and increased again from 1996-97. The simulated effects on aggregate job stability over the entire 1982-97 period are over 60 percent greater than those for the subperiod 1986-96. In particular, over the 1982-97 period, our simulations indicate that the growth in agency temporary employment increased the number of workers changing employers by 0.5 percentage points.

The next two rows of Table 8 simulate the effects of the decline in part-time and self- employment. We make the assumption that all of the decline occurred among regular part-time employment and regular self-employment.[23] According to the simulations, the decline in part-time

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[22]We noted above that some of the employer switching associated with temporary agency employment may occur when agency temporaries are hired by their client firm. Nevertheless, such transitions would also be recorded as employer switches in the CPS figures, which we are trying to explain.

[23]We have already taken into account a shift from regular part-time employment to agency temporary part-time employment in the simulation for agency temporary employment. The decline in self-employment is measured over the 1989-96 period. All calculations were based on estimates that accounted for

employment would have almost no effect on the probability of switching employers and becoming unemployed, and a very small effect on the probability of exiting the labor force. Because we estimated no significant effect from being in regular self-employment on the probability of switching arrangements or becoming unemployed, the simulations for the decline in self-employment are limited to estimating the effect on the probability of exiting the labor force. These simulations also suggest a very small decline in individuals exiting the labor force from the decline in self-employment. While these estimates are admittedly rough, they nonetheless illustrate an important point: declines in part-time and self-employment are unlikely to offset the strong effects of the growth in temporary employment on the probability of switching employers.

The simulations in rows 4 to 6 of Table 8 arguably represent a lower bound estimate of the effects of changes in flexible staffing arrangements on aggregate job stability. Although our multinomial logit models suggest that any increase in independent contractors would have little effect on aggregate job stability, growth in the other arrangements—on-call workers, direct-hire temporaries, and contract company workers—would have a more substantial impact. And although no statistics are available on trends in these arrangements, qualitative evidence from employer surveys indicates that there has been some growth in these arrangements in the 1980s and 1990s. For instance, the Conference Board's survey of members in 1995 found that one-fourth to one-third of companies reported sizable growth in their use of direct-hire

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the effect of the redesign of the CPS in 1994. Other details concerning the simulations are provided in the appendix.

temporaries in the preceding five years and expected sizable growth in the coming five years. Data from BLS Industry Wage Surveys in 1986 and 1987 show growth in contracting out of services in thirteen manufacturing industries between 1979 and 1986-1987 (Abraham and Taylor 1996). In a survey of members of the Bureau of National Affairs, a larger percentage of employers reported an increase than reported a decrease between 1980 and 1985 in their use of direct-hire temporaries, on-call workers, administrative or business support contracts, and production subcontracting relative to regular workers (Abraham 1990). In the Upjohn Institute employer survey on flexible staffing arrangements, a much larger percentage reported contracting out work previously done in house than reported bringing work back in house since 1990. Moreover, two-thirds of respondents to the Upjohn Institute survey predicted that organizations in their industry would increase their use of flexible staffing arrangements in the coming five years. Thus, it is reasonable to assume that there has been some growth recently in other types of flexible staffing arrangements, though the amount they have grown is unknown.

The last row of Table 8 presents the results of a hypothetical simulation which assumes that on-call, contract company, and direct-hire temporary employment each doubled as a percentage of the workforce over the 1986-96 period. This simulation serves to illustrate that, as with agency temporaries, the largest effect of any growth in these other flexible staffing arrangements would be an increase in the proportion of workers switching employers. Although the percentage growth assumed for these categories is slightly less than that actually experienced by agency temporaries, employment in these arrangements is unlikely to have increased as much

as twofold. Thus, the simulation in row 7, combined with the other simulations, probably represents an upper bound estimate of the effects of the growth in flexible staffing arrangements on job stability. Summing the effects of rows 4 through 7 of Table 8, growth in flexible staffing arrangements could result in a 0.51 percentage point increase in the percent switching employers, which represents about half of the net growth in employer switching over the period.[24]

Conclusion

We set out in this chapter to examine whether workers in a wide variety of flexible work arrangements experience less job stability as a consequence of those arrangements. Although our evidence suggests that they generally do, it is important to distinguish between types of arrangements.

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[24]It should be pointed out that our simulations only capture permanent changes to one-year labor market transition rates from changes in the composition of employment arrangements; the aggregate data, however, measure both these permanent changes and changes that result from one-time changes in the composition of employment arrangements. For instance, if, during the period, individuals were shifting from being in regular jobs to being independent contractors, there would be a one-time increase in job switching due to the growth in independent contractors, even though, according to our estimates, independent contractors are no more likely to switch jobs than regular full-time workers. Although our simulations probably understate the extent to which growth in flexible staffing arrangements have contributed to a decline in job stability, the understatement is likely to be slight because we measure job stability over a relatively short time horizon (one year). However, the contribution of such one-time shifts to changes in job stability in the 1980s and 1990s will be more important when job stability is measured over a longer time horizon, as it is done in most studies.

Evidence of lower job stability is clearest for agency temporaries, on-call workers, direct-hire temporaries, and contract company workers. Results from the Upjohn Institute survey show that employers primarily use agency temporaries, on-call workers, and direct-hire temporaries for temporary assignments. Only for agency temporaries do a substantial proportion of employers report using the arrangement to screen workers for permanent positions, and even then it is not the primary reason employers report for using them. Moreover, our analysis of CPS data shows that compared to regular full-time workers agency temporaries, on-call workers, direct-hire temporaries, and contract company workers are more likely to change employers, become unemployed, or, in the case of on-call workers and direct-hire temporaries, involuntarily drop out of the labor force after one month and/or one year. These results hold up even after controlling for individual and job characteristics, job histories, and wages.

We also find considerable evidence of job instability for those in regular part-time jobs. Regular part-time workers are more likely than regular full-time workers to change employers, become unemployed, and involuntarily drop out of the labor force, particularly over the course of a year. While regular part-time work is less stable than regular full-time work, it is more stable than that of agency temporary, on-call, direct-hire temporary, and contract company work in that part-time workers are less likely to become unemployed or change employers.

We find little evidence that the employment of independent contractors is less stable than that of regular full-time workers. Although independent contractors display some increased tendency to drop out of the labor force, this change in labor force status appears largely voluntary.

Our simulations indicate that the recent rapid growth in agency temporaries resulted in a modest decline in job stability primarily because agency temporaries are much more likely than workers in regular full-time and regular part-time positions to switch employers. According to our simulation results, the growth in agency temporaries over the 1986-87 to 1995-96 period increased the number of workers switching jobs over the course of a year by 0.30 percentage points, which represents about 30 percent of the increase in employer switching evidenced in the CPS data. The decline in part-time and self-employment over the period would not have offset the increase in job switching caused by the growth in agency temporaries. Given qualitative evidence of growth in other forms of flexible staffing arrangements, this probably represents a lower bound estimate of the effects of the growth in flexible staffing arrangements on job stability. Thus, while the decline in aggregate job stability is itself modest, our results indicate that the growth in agency temporaries and other flexible staffing arrangements can account for a substantial part of the decline.

Future CPS supplements on contingent and alternative work arrangements will supply better time series data on employment in flexible staffing arrangements. The results we presented in this chapter suggest that continued growth in agency temporaries and other types of flexible staffing arrangements would bear watching for their effects on job stability.

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APPENDIX

Longitudinal Matching and Weighting in the CPS

Households in the CPS are interviewed for four consecutive months, not interviewed for the next eight months, and are then interviewed for four more consecutive months. In each calendar month of the year, a new group of households is administered its first monthly interview. Given this structure, it is theoretically possible to match 75 percent of the households in consecutive calendar months and 50 percent of the households in months one year apart. The actual percentage that can be matched is lower because some individuals refuse to continue participating and because the sample is address-based and some individuals move. In addition, starting in January 1996, the sample of both new and continuing households in the CPS was reduced by approximately 12 percent, resulting in a lower match rate for the February 1995 to February 1996 matched sample. Of those who were not in their fourth or eighth interview and were employed in February 1995, 96.3 percent had a valid record to which they could be matched in March 1995. Of those who were in the first half of their interviewing rotations (interviews one through four) and were employed in February 1995, 67.1 percent were matched to a valid record in February 1996.

Because of a phasing-in of a new area sample, household identifications on the public use tapes were generated such that households could not be matched forward starting in May 1995. All longitudinal data reported in this chapter were constructed using internal BLS data

containing household identification numbers and unique person identification numbers for individuals within a household.

The tabulations reported in Tables 3 and 4 were weighted to account for the reduction in observations caused by the rotation pattern of interviewing, attrition, and the overall reduction in the CPS sample instituted in January 1996. We constructed weights to preserve the February 1995 age, race and gender distribution of workers in the matched February 1995-March 1995 data and in the matched February 1995-February 1996 data. To do this, we multiplied the individual February 1995 supplement weights by a ratio that captures the attrition in each individual's age-race-gender group. We calculated ratios for eight age-race-gender groups (male, white, greater than 25 years old; male, non-white, greater than 25 years old; etc.). Specifically, the ratio equals the weighted number of individuals in that particular group in February 1995 to the weighted number of individuals in the same group in the matched sample, where the weight was the February 1995 Supplement weight.

Definition of Selected Variables

Living in a Poverty Area

A poverty area is defined as a census tract in which more than 20 percent of the households had incomes below the poverty level in 1990.

Job Tenure

Job tenure in February 1995 for those who were agency temporaries, contract company workers, or on-call workers is defined as

how long individuals had worked for the temporary help agency or a contract company, or had been an on-call worker rather than how long they had been at a particular assignment. Independent contractors and the self-employed were asked how long they had been in these arrangements. In the February 1996 tenure supplement, wage and salary workers were asked how long they had worked for the employer identified as their current and main employer in the monthly CPS. The self-employed were asked how long they had been self employed.

Earnings

Hourly earnings were constructed using data from the March income supplement which inquires about earnings in the previous year. Using data on 1994 earnings from the March 1995 CPS has the drawback that we must exclude those who worked in February 1995 but who report no earnings the previous year. Inclusion of the March earnings variable, however, generally has little effect on the size and significance of the other coefficients in the model.

Being Switched to a Flexible Work Arrangement at Current Place of Work

Agency temporaries, on-call workers, and contract company workers were asked if they had always worked at the place they were currently working in this arrangement. In February 1995 only independent contractors who were identified as wage and salary workers were asked about their previous status. In addition, in February 1997, independent contractors identified as self-employed were asked, "Have you ever worked for one of your clients as something other than an independent contractor?"

The proportion of independent contractors reporting to have been switched in 1995 was higher than in 1997. However, this is almost entirely attributable to the fact that only wage and salary independent contractors were asked about their previous status. The percentage of workers in the other three flexible work arrangements who said that their work arrangements had changed was higher or about the same in 1995 as in 1997.

Agency temporaries, on-call workers, contract company workers and wage and salary independent contractors who had previously worked in another arrangement at their current workplace were asked directly in both 1995 and 1997 how long they had worked in that previous arrangement before being switched. Tenure prior to being switched for independent contractors identified as self employed was less precisely derived from a series of questions asked of those who had been independent contractors for no more than three years. In these questions, independent contractors who stated that they had been employed directly prior to becoming an independent contractor were asked how long they had worked in this other job.

Constructing Trends in Aggregate Job Stability from the CPS

Aggregate job stability measures were constructed by matching those who were in the first half of their interviewing rotations and were employed in either January 1986 or February 1995 to their individual records a year later. January 1987 and February 1996 were chosen because in each of these months a tenure supplement for those who were employed at the time of the survey was conducted in conjunction with the monthly

CPS. Individuals were defined as being employed with the same employer if they were reported to have been employed in January 1987 or February 1995 and their tenure in January 1987 or February 1996 was greater than or equal to a year. Individuals were classified as being employed with a different employer if they had been employed one year earlier and their tenure was less than a year in January 1987 or February 1996. Those employed in January 1986 or February 1995 were classified as going from employment to unemployment or employment to being not in the labor force, if they were unemployed or not in the labor force respectively in January 1987 or February 1996.

Individuals observed in February 1995 were matched to their February 1996 data using household identification numbers and unique person identification numbers for individuals within a household as described above. Individuals observed in January 1986 were matched to their data in January 1987 also by using household and person identification numbers. However, because identification numbers were somewhat less likely to be consistent month to month in 1986 than in 1995, we also required that an individual's gender, race, and age (or age plus 1) be the same between 1986 and 1987 in order for a match to be considered valid. The match rate for those who were employed in January 1986 was 68.4 percent. Nonresponse and attrition from the sample were accounted for when estimating the job stability measures in both 1986/1987 and 1995/1996 by adjusting the weights as described in the discussion on weighting presented above.

Methodology for Simulations

The estimated effect of a change in the employment share of a particular work arrangement on the one-year labor market transition rates was calculated as $\Delta S^{*}ME_{fsa\text{-}pt}{}^{*}\rho + \Delta S^{*}ME_{fsa\text{-}ft}[1-\rho]$, where ΔS is the change in the flexible staffing arrangement share; $ME_{fsa\text{-}pt}$ is the marginal effect of being in a particular flexible staffing arrangement relative to being in a regular part-time arrangement on labor market transitions (employed with the same employer, employed with a different employer, unemployed, or not in the labor force); $ME_{fsa\text{-}ft}$ is the marginal effect of being in a particular flexible staffing arrangement relative to being in a regular full-time arrangement on labor market transitions; and ρ is the proportion of workers in that flexible staffing arrangement who work part-time hours. The marginal effects were based on model 4 in Table 6, which contains the greatest number of control variables, and were calculated as the average of the marginal effects for individuals who were in that particular flexible staffing arrangement in February 1995. The individual marginal effects were calculated as the difference between the predicted probability assuming the individual was a regular part-time worker (or a regular full-time worker) and the predicted probability assuming the individual was in the particular flexible arrangement (agency temporary, on-call worker, etc.). By taking the average of the individual marginal effects only across those in the flexible staffing arrangements, we are implicitly assuming that the distribution of characteristics of workers joining (or leaving) a particular arrangement reflects the distribution among workers in that arrangement in February 1995. For example, we assume that the growth in temporary employment was drawn disproportionately from young,

female, and minority workers. Calculating the marginal effects as the average across all workers (as is reported in Tables 5, 6, and 7) produces qualitatively similar results, however.

Table 1. Employment by Work Arrangement

	Percent of all workers	Percent with tenure 1 year or less	Percent of all workers with tenure 1 year or less
Agency temporaries	1.0	74.9	2.7
On-call workers	1.7	47.2	3.0
Direct-hire temporaries	2.8	57.7	6.0
Contract workers	0.5	49.8	0.9
Independent contractors	6.7	17.3	4.3
Regular self-employed	5.9	12.2	2.6
Regular part-time	13.6	46.3	23.9
Regular full-time	67.8	22.0	56.6

Source: Authors' tabulations using the February 1995 CPS. Unpaid workers and those in the armed forces are excluded from tabulations. All tabulations were weighted using the CPS Supplement weight.

Table 2. Mobility of Workers in Flexible Arrangements into Regular Positions

	Often	Occasionally/ Sometimes	Seldom	Never	Don't Know	Sample Size
Agency temporaries	11.5	31.3	19.0	36.8	1.6	253
On-call workers	9.3	26.7	27.3	32.7	4.0	150
Direct-hire temporaries	9.0	34.3	17.1	38.6	1.0	210
Regular part-time workers	14.7	39.6	16.0	28.9	0.8	394

Source: Upjohn Institute Employer Survey on Flexible Staffing Arrangements

Table 3. Labor Force Status in March 1995 by Work Arrangement in February 1995[1]

Status in February 1995	Proportion in March 1995 who were:										Number of observations
	Employed				Unemployed		Not in labor force				
	Total	Difference between arrangement and full-time	Different employer	Difference between arrangement and full-time	Total	Difference between arrangement and full-time	Total	Difference between arrangement and full-time	Want to be in labor force	Difference between arrangement and full-time	
Agency temporary[2]	0.869	-0.114	0.090	0.070	0.098	0.089	0.034	0.025	0.000	-0.002	145
On-call worker	0.840	-0.143	0.062	0.041	0.071	0.063	0.089	0.080	0.023	0.021	672
Direct hire temporaries	0.886	-0.097	0.057	0.037	0.045	0.036	0.069	0.061	0.022	0.020	1173
Contract worker[2]	0.981	-0.001	0.063	0.043	0.010	0.001	0.009	0.001	0.009	0.007	147
Independent contractors	0.948	-0.035	0.032	0.011	0.015	0.007	0.037	0.028	0.010	0.008	2854
Regular self-employed	0.947	-0.036	0.025	0.004	0.007	-0.002	0.046	0.037	0.006	0.004	2573
Regular part-time	0.936	-0.047	0.031	0.011	0.020	0.011	0.045	0.036	0.012	0.010	5758
Regular full-time	0.983		0.020		0.009		0.009		0.002		27952

[1] The figures in these tables are based on weighted tabulations. A data appendix, available from the authors, describes the construction of these weights.

[2] Excludes individuals misreporting their employer in the basic February 1995 CPS.

Table 4. Labor Force Status in February 1996 by Work Arrangement in February 1995[1]

	Proportion in February 1996 who were:										
	Employed				Unemployed		Not in labor force				
Status in February 1995	Total	Difference between arrangement and full-time	Different employer	Difference between arrangement and full-time	Total	Difference between arrangement and full-time	Total	Difference between arrangement and full-time	Want to be in labor force	Difference between arrangement and full-time	Number of observations
Agency temporary[2]	0.810	-0.123	0.515	0.414	0.123	0.098	0.067	0.025	0.016	0.008	44
On-call worker	0.734	-0.199	0.214	0.112	0.107	0.083	0.159	0.117	0.034	0.026	320
Direct-hire temporary	0.768	-0.166	0.244	0.143	0.062	0.037	0.171	0.128	0.028	0.020	451
Contract worker[2]	0.821	-0.112	0.219	0.118	0.062	0.037	0.117	0.075	0.077	0.069	69
Independent contractors	0.906	-0.027	0.086	-0.016	0.014	-0.010	0.079	0.037	0.012	0.004	1346
Regular self-employed	0.870	-0.063	0.069	-0.033	0.011	-0.014	0.119	0.077	0.004	-0.004	1252
Regular part-time	0.773	-0.161	0.185	0.084	0.045	0.020	0.183	0.141	0.027	0.019	2381
Regular full-time	0.933		0.101		0.024		0.042		0.008		12070

[1] The figures in these tables are based on weighted tabulations. The data appendix describes the construction of these weights.

[2] Excludes individuals misreporting their employer in the basic February 1995 CPS.

Table 5. Multinomial Logit Models Predicting Labor Force Status in March 1995[1]

	Employed Different Employer				Unemployed				Not in Labor Force			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Agency temporary	1.325***	1.313***	1.111***	1.211***	1.807***	1.761***	1.490***	1.154***	1.448***	1.447***	0.718	0.617
	[0.044]	[0.043]	[0.043]	[0.040]	[0.036]	[0.034]	[0.026]	[0.016]	[0.025]	[0.026]	[0.009]	[0.004]
On-call worker	1.085***	1.118***	0.943***	0.798***	1.874***	1.867***	1.535***	1.483***	2.162***	2.045***	1.354***	1.521***
	[0.029]	[0.031]	[0.025]	[0.020]	[0.037]	[0.037]	[0.026]	[0.024]	[0.057]	[0.052]	*[0.024]*	*[0.019]*
Direct-hire temporary	0.844***	0.865***	0.731***	0.708***	1.524***	1.504***	1.240***	1.251***	1.785***	1.708***	0.986***	1.096***
	[0.021]	[0.022]	[0.018]	[0.017]	[0.026]	[0.025]	[0.019]	[0.019]	[0.039]	[0.037]	[0.015]	[0.011]
Contract worker	0.856**	0.862**	0.729*	0.775**	-0.604	-0.617	-0.891	-0.797	0.430	0.355	0.299	0.762
	[0.025]	[0.025]	[0.020]	[0.022]	[-0.004]	[-0.004]	[-0.006]	[-0.005]	[0.005]	[0.004]	[0.004]	[0.007]
Independent contractor	0.555***	0.575***	0.547***	0.629***	0.348*	0.371*	0.233	0.118	1.479***	1.423***	0.940***	1.287***
	[0.013]	[0.013]	[0.013]	[0.016]	[0.003]	[0.003]	[0.002]	[0.000]	[0.029]	[0.028]	[0.015]	[0.015]
Regular self-employed	0.264*	0.294*	0.293*	0.247	0.123	0.155	0.059	-0.277	1.546***	1.477***	0.855***	1.219***
	[0.005]	[0.005]	[0.006]	[0.005]	[0.001]	[0.001]	[0.000]	[-0.002]	[0.032]	[0.030]	[0.014]	[0.014]

Table 5. (Continued)

	Employed Different Employer				Unemployed				Not in Labor Force			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Regular part-time	0.156	0.185*	0.126	0.022	0.442***	0.453***	0.286**	0.157	0.952***	0.868***	0.428***	0.556***
	[0.003]	[0.003]	[0.002]	[0.000]	[0.004]	[0.005]	[0.003]	[0.001]	[0.014]	[0.013]	[0.006]	[0.005]
Another job before	--	0.354***	0.345***	0.253*	--	0.229	0.538***	0.533***	--	-0.733***	0.257**	0. 103
		[0.008]	[0.007]	[0.005]		[0.003]	[0.006]	[0.005]		[-0.013]	[0.004]	[0.001]
Unemployed before	--	0.401***	0.343**	0.319*	--	0.480**	0.283	0.253	--	-0.280**	-0.331**	-0.359
		[0.010]	[0.009]	[0.008]		[0.007]	[0.004]	[0.003]		[-0.005]	[-0.005]	[-0.003]
Lost job before	--	0.083	0.021	0.076	--	0.367***	0.200	0.229	--	0.130	-0.022	0.089
		[0.002]	[0.000]	[0.002]		[0.005]	[0.002]	[0.002]		[0.002]	[-0.000]	[0.001]
Number employers '94	--	--	0.328***	0.384***	--	--	0.092	0.144*	--	--	-0.207***	0.009
			[0.007]	[0.008]			[0.001]	[0.001]			[-0.004]	[-0.000]
Weeks unemployed '94	--	--	0.019***	0.018***	--	--	0.054***	0.054***	--	--	0.049***	0.037***
			[0.000]	[0.000]			[0.001]	[0.001]			[0.001]	[0.000]
Weeks NILF '94	--	--	0.013***	0.009**	--	--	0.034***	0.033***	--	--	0.077***	0.070***
			[0.000]	[0.000]			[0.000]	[0.000]			[0.001]	[0.001]
ln(wage)	--	--	--	-0.074	--	--	--	-0.195**	--	--	--	-0.050
				[-0.001]				[-0.002]				[-0.000]

[1]All models also include an intercept term and control for age, age-squared, gender, race, education, tenure, tenure-squared, tenure less than three years, occupation, industry, region, central city and rural location, marital status, and marital status interacted with gender. The marginal effect on the probability of being employed with a different employer, unemployed, or not in the labor force is reported in brackets. * denotes significance of the coefficient estimate at the 0.10 level; ** denotes significance of the coefficient estimate at the 0.05 level; *** denotes significance of the coefficient estimate at the 0.01 level.

Table 6. Multinomial Logit Models Predicting Labor Force Status in February 1996[1]

	Employed, Different Employer				Unemployed				Not in Labor Force			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Agency temporary	1.992***	2.000***	1.883***	1.805***	2.185***	2.201***	1.912***	1.339*	1.235*	1.260*	0.496	0.760
	[0.221]	[0.220]	[0.220]	[0.213]	[0.077]	[0.079]	[0.056]	[0.024]	[0.036]	[0.038]	[-0.002]	[0.016]
On-call worker	1.007***	1.031***	0.925***	1.003***	1.599***	1.586***	1.275***	1.499***	1.401***	1.291***	0.956***	0.692***
	[0.075]	[0.081]	[0.075]	[0.087]	[0.054]	[0.054]	[0.035]	[0.045]	[0.079]	[0.069]	[0.045]	[0.023]
Direct-hire temporary	0.994***	1.018***	0.988***	0.948***	1.466***	1.422***	1.190***	1.252***	1.550***	1.476***	1.358***	1.232***
	[0.072]	[0.078]	[0.077]	[0.075]	[0.044]	[0.042]	[0.027]	[0.030]	[0.096]	[0.090]	[0.081]	[0.066]
Contract worker	0.912***	0.918***	0.949***	0.950**	1.205**	1.150**	1.129*	1.200**	1.044**	1.021**	1.022**	1.059**
	[0.076]	[0.078]	[0.079]	[0.079]	[0.035]	[0.032]	[0.027]	[0.029]	[0.051]	[0.050]	[0.051]	[0.051]
Independent contractor	0.162	0.169	0.095	0.115	-0.640**	-0.634**	-0.702**	-0.528	0.450***	0.413***	0.166	0.123
	[0.012]	[0.013]	[0.008]	[0.010]	[-0.012]	[-0.012]	[-0.012]	[-0.009]	[0.023]	[0.021]	[0.008]	[0.005]
Regular self-employed	-0.016	-0.002	-0.072	-0.182	-0.589**	-0.556*	-0.200	-0.092	0.744***	0.708***	0.671***	0.643***
	[-0.006]	[-0.004]	[-0.010]	[-0.017]	[-0.011]	[-0.011]	[-0.005]	[-0.002]	[0.045]	[0.043]	[0.041]	[0.037]
Regular part-time	0.310***	0.333***	0.304***	0.278***	0.471***	0.457***	0.476***	0.506**	0.971***	0.902***	0.836***	0.799***
	[0.017]	[0.020]	[0.016]	[0.015]	[0.009]	[0.009]	[0.009]	[0.010]	[0.058]	[0.053]	[0.048]	[0.043]

Table 6. (Continued)

	Employed, Different Employer				Unemployed				Not in Labor Force			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Regular part-time	0.310***	0.333***	0.304***	0.278***	0.471***	0.457***	0.476***	0.506**	0.971***	0.902***	0.836***	0.799***
	[0.017]	[0.020]	[0.016]	[0.015]	[0.009]	[0.009]	[0.009]	[0.010]	[0.058]	[0.053]	[0.048]	[0.043]
Another job before	--	0.181**	0.211*	0.185	--	-0.004	0.350	0.292	--	-0.662***	-0.348***	-0.353**
		[0.022]	[0.020]	[0.017]		[0.001]	[0.008]	[0.007]		[-0.037]	[-0.022]	[-0.019]
Unemployed before	--	0.064	-0.021	-0.122	--	0.615***	0.469	0.439	--	-0.281**	-0.382**	-0.343*
		[0.005]	[-0.001]	[-0.009]		[0.020]	[0.014]	[0.013]		[-0.017]	[-0.020]	[-0.016]
Lost job before	--	0.009	0.062	0.108	--	0.497***	0.429**	0.506**	--	0.166	0.060	0.037
		[-0.003]	[0.003]	[0.006]		[0.014]	[0.011]	[0.012]		[0.008]	[0.002]	[0.000]
Number employers '94	--	--	0.298***	0.328***	--	--	0.280***	0.266**	--	--	-0.102	-0.061
			[0.025]	[0.026]			[0.005]	[0.005]			[-0.009]	[-0.006]
Weeks unemployed '94	--	--	0.019***	0.016***	--	--	0.051***	0.051***	--	--	0.031***	0.024***
			[0.001]	[0.001]			[0.001]	[0.001]			[0.001]	[0.001]
Weeks NILF '94	--	--	0.019***	0.016***	--	--	0.031***	0.024***	--	--	0.034***	0.031***
			[0.001]	[0.001]			[0.001]	[0.000]			[0.002]	[0.001]
ln(wage)	--	--	--	-0.145**	--	--	--	0.026	--	--	--	-0.132*
				[-0.011]				[0.001]				[-0.006]

[1]All models also include an intercept term and control for age, age-squared, gender, race, education, tenure, tenure-squared, tenure less than three years, occupation, industry, region, central city and rural location, marital status, and marital status interacted with gender. The marginal effect on the probability of being employed with a different employer, unemployed, or not in the labor force is reported in brackets. * denotes significance of the coefficient estimate at the 0.10 level; ** denotes significance of the coefficient estimate at the 0.05 level; *** denotes significance of the coefficient estimate at the 0.01 level.

Table 7. Multinomial Logit Models Predicting Labor Force Status in February 1996[1]

	Unemployed				Not in Labor Force, Don't Want to Be				Not in Labor Force, Want to Be			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
On-call worker	1.330***	1.313***	1.065***	1.263***	1.146***	1.042***	0.722***	0.410	1.284***	1.194***	1.079**	1.133**
	[0.047]	[0.046]	[0.031]	[0.039]	[0.056]	[0.049]	[0.031]	[0.013]	[0.014]	[0.012]	[0.010]	[0.010]
Direct-hire temporary	1.195***	1.164***	0.909***	1.001***	1.302***	1.235***	1.086***	0.986***	1.278***	1.190***	1.041***	1.186***
	[0.038]	[0.037]	[0.023]	[0.026]	[0.069]	[0.065]	[0.057]	[0.046]	[0.013]	[0.012]	[0.009]	[0.010]
Contract worker	1.091**	1.034*	1.045*	1.086*	0.608	0.593	0.654	0.853	1.547**	1.518**	1.557*	1.193
	[0.035]	[0.032]	[0.029]	[0.030]	[0.022]	[0.022]	[0.026]	[0.037]	[0.022]	[0.021]	[0.020]	[0.011]
Independent contractor	-0.675***	-0.668***	-0.703**	-0.540	0.446***	0.406***	0.176	0.131	0.360	0.343	0.154	-0.046
	[-0.011]	[-0.011]	[-0.010]	[-0.008]	[0.018]	[0.017]	[0.007]	[0.005]	[0.003]	[0.003]	[0.001]	[-0.000]
Regular self-employed	-0.612**	-0.581**	-0.204	-0.089	0.852***	0.807***	0.773***	0.742***	-0.144	-0.120	-0.076	-0.027
	[-0.010]	[-0.010]	[-0.004]	[-0.002]	[0.042]	[0.040]	[0.039]	[0.034]	[-0.001]	[-0.001]	[-0.001]	[-0.000]
Regular part-time	0.404***	0.392***	0.432**	0.455**	0.949***	0.882***	0.783***	0.738***	0.741***	0.684***	0.847***	0.976***
	[0.008]	[0.008]	[0.008]	[0.009]	[0.046]	[0.042]	[0.037]	[0.032]	[0.006]	[0.006]	[0.007]	[0.008]

[1]All models also include an intercept term and control for age, age-squared, gender, race, education, tenure, tenure-squared, tenure less than three years, occupation, industry, region, central city and rural location, marital status, and marital status interacted with gender. The marginal effect on the probability of being employed with a different employer, unemployed, or not in the labor force is reported in brackets. * denotes significance of the coefficient estimate at the 0.10 level; ** denotes significance of the coefficient estimate at the 0.05 level; *** denotes significance of the coefficient estimate at the 0.01 level.

Table 8. Effects of Growth in Flexible Staffing Arrangements on Job Stability, 1986-1996[1]

		Proportion that one year later are:			
		Employed, different employer	Unemployed	Not in labor force	Employed, same employer
1.	One-year labor market transitions, 1986-87	0.1038	0.0338	0.0759	0.7864
2.	One-year labor market transitions, 1995-96	0.1139	0.0291	0.0763	0.7807
3.	Actual changes 1986-87 to 1995-96 (row 2 - row 1)	0.0101	-0.0047	0.0004	-0.0057
4.	Predicted changes from growth in agency temporaries	0.0030	0.0003	0.0000	-0.0033
5.	Predicted changes from decline in part-time employment	-0.0001	-0.0000	-0.0003	0.0004
6.	Predicted changes from decline in self-employment	--	--	-0.0004	0.0004
7.	Predicted changes assuming on-call, contract company, and direct-hire temps have doubled as percent of work force	0.0022	0.0012	0.0018	-0.0051

[1] Details of the data and the methodology for the simulations are provided in the appendix.

56

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